Configuration Management News

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INSIDE

Articles for submission and/or questions concerning articles should be forwarded to:

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NASI Library

by Bob Payne

The National AirSpace Information (NASI) system is an electronic library of frequently used FAA documents. Housed at the ASD SETA contractor's facility in Washington, DC, the NASI system allows the FAA community to access documents through the Internet and the FAA Intranet--the ADTN Wide Area Network (WAN).

Developed two years ago by ASD, NASI was designed to store ASD documentation electronically. Today, NASI serves not only ASD, but houses documents from a variety of organizations throughout the FAA. The NASI library contains a large number of frequently used FAA documents, including:

1997 Capital Investment Plan	1997 R,E,&D Plan
Flight 2000 Program Plan	NAS Architecture Product Set
NAS-MD-001 Report	NAS System Documents
Program Risk Management Guidance	FAA Standards

If you have access to the Internet or Intranet, you can access documents in the NASI library. Use Netscape or Microsoft Explorer to move to the NASI Home Page at ***http://www.nasi.hq.faa.gov***, and then click on the ***What's Here*** link to go to the NASI contents page. Documents viewed through the Internet or Intranet are stored in HTML format and can be printed or saved to your computer. No special permission from NASI administrators is required to access documents through the NASI system.

Some documents on the NASI system are stored in WorldView format as well as HTML. WorldView allows documents to retain their original format, since the format is often lost when a document is hosted in HTML. To view documents in WorldView, you must install WorldView on your computer. Contact the NASI Help Desk at 202-651-2233 to get a free copy of WorldView and installation instructions. However, HTML is the primary format that most Inernet and Intranet users can easily accommodate and will allow personnel worldwide to view documents without the need for special viewers.

NASI allows important FAA information to be available to every FAA employee. By making electronic copies of documents, drawings, and reports available on-line, 24 hours a day, NASI provides information immediately to the FAA and eliminates the wait and cost associated with ordering hard copies. The FAA has already saved a substantial amount of money by hosting the 800-page NAS-MD-001 report on the NASI system. Before being hosted on NASI, the MD-001 Report was printed in hard copy more than 1,000 times for distribution. And since NASI is available through the Internet, the system can be used to deliver information to FAA employees virtually anywhere in the world. Comments for the NAS Architecture, for example, were received from as far away as Australia.

NASI provides centralized, electronic storage for documents published by your FAA organization, and offers your users a one-stop repository for documentation.

CM Workshop 97'

In a previous edition we promised you additional information concerning Work Group efforts at CM Workshop 97'

Work Group #1

Lead: William Helm

Standard Process Document for Facility Baselining

The purpose of this document is to clarify a standard baseline process and establish a national approach for the development of facility baseline configurations. Headquarters and the Regions have collaborated to create this national standard process for baselining facilities.

Accurate data relating to available space, electrical power and Heating, Ventilation and Air Conditioning (HVAC) is an essential element in the support of modernization projects. Through the implementation of a National Facility Baseline Program, current and consistent facility configuration data will be readily available prior to the site adaptation/installation phase, reducing the need for project-by- project data gathering. Engineering drawings will have an improved national and regional level of consistency which can be relied upon and used to support overall planning efforts.

The need for accurate facility configuration data will continue to grow as new and replacement systems are readied for deployment. An increasing number of Capital Investment Program (CIP) projects are scheduled for the Air Route Traffic Control Centers (ARTCCs), Airport Traffic Control Towers (ATCTs), Automated Flight Service Stations (AFSSs), the Large Terminal Radar Approach Control (TRACONs), and the Air Route Surveillance Radar (ARSR-4) Joint Surveillance Site (JSS) facilities. This National Standard identifies the roles and responsibilities of the Configuration Management (CM) participants and the procedures used when baselining these FAA facilities.

Accurate physical configurations of baselined sites are the products of CM and are vital links in the success of updating the National Airspace System (NAS). They provide a significant cost savings to product teams and the engineering groups by reducing the number of potential site surveys and providing current drawings and data for planning and engineering requirements.

This Standard Process Document will be available to all and should be used as a guide along with the Standard Document for Audits to their maximum potential as management tools.

Work Group #2

Lead: Cecil West

Standard Process for CM Facility Audits/Reviews

An essential component in the performance of Configuration Management. The performance of internal audits and self assessments are basic continuous process improvements required to ensure the development of repeatable processes.

Compliance with specifications, drawings, and other requirements are verified by means of an audit. The CM community has established two types of formal configuration audits: Functional Configuration Audit (FCA) concerned with design and Physical Configuration Audit (PCA) concerned with "as-built" conditions. A formal audit compares the facility configuration with the as designed documentation and the approved configuration changes.

The Physical Configuration Audit (PCA) is a formal examination of Configuration Items (CIs) to ensure as-built CIs match the associated documentation. Completion of an operational PCA is a prerequisite to the establishment of a baseline or the rebaselining of a facility. Subsequently, all changes are processed via an National Airspace System (NAS) Change Proposal (NCP).

The baseline consists of the approved documentation defining the configuration of a CI during the operational phase. The CM Manager and/or NCP Coordinator will use the audit findings and technical documentation to generate the initial case file which will eventually represent the baseline. The CM Manager and/or NCP Coordinator will use subsequent audits to determine compliance with the configuration management objectives established by the FAA and RCCB Chairperson.

The audit document will define the process for establishing an audit team (including requirements for participation), scheduling, audit preparation, and reporting. The document will also establish the process for publishing audit results and resolving issues.

Audits will be performed to establish and maintain the integrity of space as a configuration item. The availability of accurate configuration managed space allocation drawings will reduce the number and duration of site visitations and/or site survey's resulting in significant savings to the agency.

Work Group #3

Lead: Nelson Gnirke

Regional Unique Equipment Requirements

Regional unique equipment (RUE) is that equipment critical to the NAS which is not baselined Nationally and generally procured and implemented within one Region. The equipment may also be in use in another Region, but the logistical support and modifications will be managed within the Region where in use. RUE is considered as Contractor Off-the Shelf (COTS) equipment covered by FAA-STD-021a. Configuration Management for RUE is within the auspices of the individual Regional Configuration Control Board (RCCB). Documentation requirements would include such items as Maintenance Handbook, Site Configuration Drawings, Training Requirements, Interface Control Documents, Functional Specifications, Software/Hardware/ Firmware Configurations (version control), and Test Equipment Requirements. The documentation processes would be similar to the documentation for major facility space configuration management as described more fully in each Region's RCCB Operating Procedures. Each Region is responsible to include RUE listing in Appendix A of the RCCB Charter. The RCCB shall have the authority to establish RUE "panels" to address specific equipment concerning inventories, supply support processes, and modification and/or training processes.

The Alaskan Region has perhaps taken the lead in identifying requirements and processing CM documentation for RUE with its unique environment and access considerations and vast remote areas. To date such RUE as solar powered high site Self Sustaining Communications Outlets (SSCO), Alaska Aviation Weather Briefing System (AAWBS) and Alaskan NAS Interfacility Communications System (ANICS) have had documented Configuration Items of RUE added to the inventories of NAS-MD-001. The ANICS is a satellite based, digital communications network that provides connectivity and circuit diversity for critical facilities under central network management which provide voice, control, and data circuits necessary to support air traffic control and flight service operations within the FAA Alaskan Region. It also provides a reliable and cost effective means for essential and routine operational communications. ANICS is composed of three segments; the Space Segment includes the satellites, and associated Telemetry Tracking and Control Station (provided by the satellite vendor). The Ground Segment includes all required equipment in each ANICS facility. Forty two (42) ANICS facilities have been commissioned to date. The Network Monitor and Control System (NMCS) Segment includes the equipment and software necessary to monitor and control the Ground Segment and the links to each facility site. The interfaces provide the support required for trouble reporting and resolution.

Work Group 4

Lead: Claire Bentley

Develop Configuration Management Metrics

What are metrics? If we are to use them successfully; gather the data needed and implement changes to a process for process improvement based on them, we have to understand just what it is we're talking about.

If just one measurement is taken, for example, the number of NCPs initiated for one month, that is a ***measure***.

If we take a number of measures, a composite of measures, that can give us insights into the state of a process, that is a ***metric***.

So now that we have an idea of what a metric is, the question is why do we want to use them? What can we hope to derive from metrics? Metrics are indicators. Used properly, they prompt questions and analysis, generate process improvement and enable informed decision-making. We in the FAA Configuration Management (CM) program strive to improve the CM process by identifying weaknesses in the current process. The types and frequency of metrics collected and reported will provide critical insight to enable optimization of resources, requirements, and technology.

Performance monitoring begins with the selection of key quality factors that can be quantifiably measured. A basic purpose and goal might be stated as follows:

1. Identify items used to quantify the value and level of CM driven success, along with methodology for data collection and analyzing CM related information.
2. Identify quantificable items used in the determination of CM benefits.

At the June conference, the work group identified the following initial measures :

1. Number of NCPs/engineering changes,
2. NCP cycle time,
3. Number of changes by reason for change,
4. Number of unincorporated changes.

The task of setting up the collection process is currently ongoing; some changes need to be made to the form and possibly to the screen in the national data base to enable the tracking process. Future editions of the CM Newsletter will carry updates to the metrics program.

FAQ

Frequently Asked Questions

Question: In the August edition of "Configuration Management News" there was an article on who completes NCP's. The article stated that the project engineer is responsible for doing the NCP. Given that, how does a request get through the budget cycle and become a project if it requires an NCP to do the work? For example, if operations submits a budget request to install a different power system than prescribed by the power order for that established facility, who is responsible for the NCP? Should a request that clearly requires an approved NCP in order to execute ever get through the budget cycle and become a project if it does not have an approved NCP before hand?

Scott Crabtree, ACE-456

Answer: **FAA Order 1800.8F para 31.b(2):** "Each program CCB is required to operate within cost, schedule, and technical thresholds in the approval of changes. A Configuration Control Decision (CCD) authorizing a change exceeding an approval threshold shall not be signed by a CCB Chairperson until the required approvals are available in writing and the program funds have been allocated.

(a) The cost impact must be less than the dollar amount established in Order WA 4400.1, Guide for Preparing Procurment Requests."

Given the statement above, an NCP does not go through a budget cycle. The NCP you would write for the installation of a different power system would need to show the availability of funds. The funds allocated for the installation of the authorized power system would have to suffice.

You are Probably an Engineer

IF:

1. You know what http:/ stands for
2. People groan at the party when you pick out the music
3. Your lap-top computer costs more than your car
4. Your wristwatch has more buttons than a phone
5. You can remember 7 computer passwords but not your anniversary
6. Your child asks why the sky is blue and you try to explain atmospheric absorption theory
7. You have a neatly sorted collection of old nuts and bolts in your garage
8. Your checkbook always balances
9. You thought the real heroes of “Apollo 13” were the mission controllers

CM Definitions

Configuration Management (CM) - A discipline applying technical and administrative direction and surveillance to identify and document the functional and physical characteristics of an FAA hardware or software Configuration Item (CI) satisfing an end-use function. Configuration Management documents **changes** to those characteristics, records and reports change processing and implementation status. It is used to establish and maintain a formal set of procedures by which a **uniform system** of change identification, coordination, approval, status accounting and audits are accomplished. It applies to the development, acquisition, implementation, modification, operation and maintenance of specific systems, subsystems, facilities, equipment, computer software and documentation (specifications, plans, drawings, manuals, etc.).

Configuration Item (CI) - A configuration item is an aggregation of hardware and/or software and/or firmware, or any of its discrete portions, which satisfies an end-use function and is designated by the FAA for configuration management. Configuration items defined in FAA Order 1800.8 for regional control include: space utilization, critical power breaker assignment, site adaptation (including environmental) and region unique equipment as stated in the RCCB charters.

CM Process Elements

Management Responsibility

CM Policy	Organization
Mgt Representative	Training
Mgt Review (Conflict Resolution)	

Planning

Vision/Mission Policy	Design Reconstruction
CM Plan & Risk Analysis	Work Flows
Process Improvement	CM System (Tools)

Identification

Item Description	Baseline Identification
Engineering Release	Document Control
Config Identification	Developmental Config

Configuration Control

Interface Mgt	Asset Accountability
Formal change Process	Non-conformance Process
Contractor Control	

Status Accounting

Traceability	Metrics Production
Integrated Repository	Automated Tool Suite
Mgt Reports	Change Chronology

Configuration Audits

Internal Audits	Assessments
FCA	PCA
Contractor Reviews	Facility Audits

Hightlights

The individuals identified below recently attended the Configuration Management Training Foundation (CMTF) courses in Configuration Management and Advanced Configuration Management taught by John Roberts. Upon the successful completion of the courses these individuls were certified as Configuration Managers and became members of the International Society of Configuration Management.

Calvin Fox, AML-400
Brenda Johnson, AML-400
Kenneth McCall, AML-400
Ross Parker
Vera Shinn, ACE-473
Cecil West, ASO-471 NISC

The STARS Team has made the "First Site" planning and implementation at Boston/Logan as smooth as possible by including all pertinent participants, including ANE Configuration Management, at the bi-weekly meetings."

SPECIAL THANKS

Configuration Management is vital to the successful implementation of the NAS. Through the efforts of several individuals the program is making great strides toward fulfilling established goals. The CM Program would like to thank those individuals whose assistance has been invaluable during the past months.

Thanks for a job well done.

Tony Eaton, ASD-220
Stewart Mee AAL-420/NISC
Lee Riffel, ACE-422
John Mayorga, ACE-510
Edmund Pfenning, NY Center
David Sprecher, Chesapeake Bay SMO
Don Sarkinen, DMS-NPPM
Pat McCormick, DMS-SMO
John Hadley, ANI-140
Ed Lopez, ANI-306 (Southern)
Gus Riccono, ASW-472
Dennis Howat, PDS SMO-AWP
George Pineda, PDS SMO-AWP
Dean Zeitler, NISC PDS SMO-AWP

Spotlight

Georgia Van Pelt, ANM-450I

Born in northern Minnesota and raised in Rockville, Maryland Georgia attended college for a year or so in Las Vegas, Nevada. Prior to working for the FAA Georgia worked as a Certified Medical Assistant in Southern Indiana and Seattle, Washington.

Georgia came on board with the FAA as a clerk typist and was accepted into the Electronics Technician Qualifications Program in 1981. She worked as a Communications technician at the Boise, Idaho ATCT for three years and the Radar/Comm unit in Eugene, Oregon. In 1986 she transferred back to Seattle and managed the F&E electronics prefabrication shop for two years. From there she went into the electronics installation unit where she worked on several projects including the National RCE Rack Fabrication Program (Northwest Mountain served as lead region), a detail to the New Denver Airport Project, and overseeing installation on the Leased Interfacility NAS Communications System (LINCS) project for Northwest Mountain Region. Following the first/last reorganization, she continued to work with telecommunications and installation until the current selection for the Configuration Management position.

Hobbies include quilting, sewing, white water rafting, travel, and rearranging the rocks in her yard (Georgia bought a new house 3 years ago).

WELCOME
to
Configuration Management

Regional CM Representatives

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